pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
COVER SHEET

NPDES Permit Number: **PA0244449** Facility Name: **Marcus Hook Generating Station**
Species Tested: [FORMCHECKBOX] *Ceriodaphnia dubia* [FORMCHECKBOX] *Pimphales promelas* Test Type: [FORMCHECKBOX] Chronic [FORMCHECKBOX] Acute
Re-Test? [FORMCHECKBOX] Yes [FORMCHECKBOX] No (If Yes, indicate the date of original test completion: [FORMTEXT])

SAMPLE INFORMATION

	Date/Time	Sample Source	Temperature	Holding Time	Chlorine	Dechlorinated?
1.	[FORMTEXT]	[FORMTEXT]	[FORMTEXT] °C	[FORMTEXT]	[FORMTEXT] mg/L	[FORMCHECKBOX] Yes [FORMCHECKBOX] No
2.	[FORMTEXT]	[FORMTEXT]	[FORMTEXT] °C	[FORMTEXT]	[FORMTEXT] mg/L	[FORMCHECKBOX] Yes [FORMCHECKBOX] No
3.	[FORMTEXT]	[FORMTEXT]	[FORMTEXT] °C	[FORMTEXT]	[FORMTEXT] mg/L	[FORMCHECKBOX] Yes [FORMCHECKBOX] No

TEST CONDITIONS

Date/Time of Test Initiation: [FORMTEXT] Date/Time of Test Termination: **[FORMTEXT]**
[FORMCHECKBOX] Renewal Test [FORMCHECKBOX] Non-Renewal Test Frequency of Renewals: [FORMTEXT]
Dilution Series: [FORMTEXT], **[FORMTEXT]**, **[FORMTEXT]**, **[FORMTEXT]**, **[FORMTEXT]** Target Instream Waste Concentration (TIWC): [FORMTEXT]
Age of Organisms at Start of Tests: [FORMTEXT]
Number of Replicates: [FORMTEXT] Number of Organisms per Replicate: **[FORMTEXT]**
Source of Organisms: **[FORMTEXT]** Feeding Regimen: [FORMTEXT]
Light Intensity: [FORMTEXT] Photoperiod: **[FORMTEXT]**
Temperature measurements made at least once per 24-hour period? [FORMCHECKBOX] Yes [FORMCHECKBOX] No (attach log sheet)
DO measured daily in at least one replicate of each concentration? [FORMCHECKBOX] Yes [FORMCHECKBOX] No (attach log sheet)
Were the test chambers aerated? [FORMCHECKBOX] Yes [FORMCHECKBOX] No Rate: [FORMTEXT]
pH measured daily in at least one replicate of each concentration? [FORMCHECKBOX] Yes [FORMCHECKBOX] No (attach log sheet)
Were test acceptability criteria in the EPA method met? [FORMCHECKBOX] Yes [FORMCHECKBOX] No
Were there any modifications to or deviations from EPA methods (if Yes, explain on separate sheet)? [FORMCHECKBOX] Yes [FORMCHECKBOX] No

DILUTION / REAGENT WATER

Date of Last Test for Chemistry: **[FORMTEXT]** Conductivity: [FORMTEXT] µmhos/cm
pH: [FORMTEXT] Chlorine: [FORMTEXT] mg/L

CONTROL RESULTS

Ceriodaphnia dubia ***Pimphales promelas***
Survival: [FORMTEXT] Survival: **[FORMTEXT]**
Percent that produced 3 broods (if applicable): [FORMTEXT] %
Mean Dry Weight of Survivors (if applicable): [FORMTEXT]
Young per Surviving Female (if applicable): [FORMTEXT]

REFERENCE TOXICITY TESTS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Same conditions as test? [FORMCHECKBOX] Yes [FORMCHECKBOX] No

Date of most recent test: [FORMTEXT]

Were test acceptability criteria in the EPA method met? [FORMCHECKBOX] Yes [FORMCHECKBOX] No

TEST RESULTS

Control compared to: [FORMCHECKBOX] TIWC Dilution [FORMCHECKBOX] Other: [FORMTEXT]

Survival:	Growth:	Reproduction:
[FORMCHECKBOX] Pass [FORMCHECKBOX] Fail	[FORMCHECKBOX] Pass [FORMCHECKBOX] Fail	[FORMCHECKBOX] Pass [FORMCHECKBOX] Fail

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of the individuals personally responsible for obtaining the information, I believe the attached information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine or imprisonment as provided by 18 Pa. C.S. §4904.

[FORMTEXT]		[FORMTEXT]	[FORMTEXT]
Name of Laboratory Manager	Signature of Laboratory Manager	Date	DEP Lab ID No.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
DATA SHEET

NPDES Permit Number: **PA0244449**

Facility Name: **Marcus Hook Energy LP**

Species: [FORMCHECKBOX] *Ceriodaphnia dubia* [*FORMCHECKBOX*] Other [FORMTEXT]

Pass/Fail Determined Using: [FORMCHECKBOX] TST

Original Number of Organisms Per Replicate: [FORMTEXT]

[FORMCHECKBOX] Other Hypothesis Test [*FORMCHECKBOX*] Other [FORMTEXT]

Rep. No.	Survival						Reproduction					
	Control	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	Control	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORMT EXT] %	[FORMT EXT] %
1	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
2	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
3	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
4	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
5	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
6	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
7	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
8	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
9	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
10	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
11	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
12	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
13	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
14	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
15	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]

Species: [*FORMCHECKBOX*] *Pimephales promelas* [*FORMCHECKBOX*] Other [FORMTEXT]

Pass/Fail Determined Using: [*FORMCHECKBOX*] TST

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

Original Number of Organisms Per Replicate: [FORMTEXT]

[FORMCHECKBOX] Other Hypothesis Test *[FORMCHECKBOX]* Other [FORMTEXT]

Rep. No.	Survival						Growth					
	Control	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	Control	[FORM TEXT] %	[FORM TEXT] %	[FORM TEXT] %	[FORMT EXT] %	[FORMT EXT] %
1	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
2	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
3	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
4	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
5	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
6	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
7	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
8	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
9	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
10	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
11	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
12	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
13	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
14	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]
15	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORM TEXT]	[FORMT EXT]	[FORMT EXT]

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

WHOLE EFFLUENT TOXICITY (WET) TEST SUMMARY REPORT
INSTRUCTIONS

The Whole Effluent Toxicity (WET) Test Summary Report should be completed and submitted to the DEP regional office that issued the NPDES permit as part of the WET test report for each valid test. Submission of the complete WET Test Summary Report may be a requirement of the NPDES permit.

COVER SHEET

A separate cover sheet should be used for each species tested. Identify the NPDES permit number and the name of the facility for which WET tests were completed. Check the appropriate boxes for the Species Tested and the Test Type. Check the "Yes" box to indicate if the test is a "Re-Test" and enter the date of the original test; if the test is not a Re-Test, check the "No" box.

Sample Information

In general, three samples should be collected for chronic tests and one sample for acute tests. For each sample collected provide the following information:

1. Date and time the sample was taken;
2. Sample source (i.e., outfall number);
3. Temperature of the sample in degrees Celsius;
4. Holding time before the sample was used for a test, in hours;
5. Chlorine concentration of the sample in mg/L; and
6. Whether or not the sample was dechlorinated prior to use in the test (Yes/No).

Test Conditions

1. Provide the date and time of test initiation and termination.
2. Check the appropriate box to indicate whether the test was renewal or non-renewal. If a renewal test, provide the frequency of renewals.
3. Provide the dilution series (5 dilutions, not including control) used for the test and the Target Instream Waste Concentration (TIWC). The TIWC concentration may be specified in the NPDES permit. The TIWC dilution is used to determine whether a test is considered "pass" or "failure."
4. Indicate the age of the organisms, in hours, at the start of the test.
5. List the number replicates of each dilution and the number of organisms in each replicate.
6. Provide the source of the organisms and the feeding regimen. Feeding regimen should include type of food and frequency of feeding.
7. Provide the light intensity throughout the test and the photoperiod.
8. Check the appropriate box for each Yes/No each quality assurance question and attach log sheets for temperature, DO, and pH. If modifications or deviations were made to approved EPA methods, attach a sheet explaining the changes and the agency that approved such changes.

Dilution/Reagent Water

In accordance with 25 Pa. Code § 252.403(h), at least once every 30 days a laboratory must verify and document that the reagent grade water meets specific criteria for conductivity, pH and Total Residual Chlorine (TRC). Provide the following information about the dilution water used for the test:

1. The date of the most recent test for chemistry;
2. Conductivity in µmhos/cm;
3. pH in SU; and
4. TRC in mg/L.

Control Results

Provide the following information about the results in the control condition:

For chronic tests:

1. The mean percent survival of the organisms in each dilution.
2. For Ceriodaphnia, the percent of organisms that produced 3 broods and the mean young per surviving female. For Pimephales, the mean dry weight of the survivors.

For acute tests: the mean percent survival of the organisms in each dilution.

Reference Toxicity Tests

1. Provide the date of the most recent reference toxicity test.
2. Check the appropriate box to indicate whether the same test conditions were used for the reference test as the WET test, and if the test acceptability criteria in the EPA method were met.

Tests Results

1. Indicate if the control was compared to the TIWC listed in the permit to determine if each test endpoint was considered a "pass" or "failure." If a dilution other than the TIWC dilution was used, check the box for "Other" and indicate the dilution (% effluent).
2. For the species tested, check the appropriate box(es) to indicate whether each applicable endpoint result is considered a "pass" or "failure."

NOTE – If required by the NPDES permit, DEP's WET Analysis Spreadsheet (see [HYPERLINK "http://www.dep.pa.gov/wett"]) must be used to determine pass/failure results, and a printout of the spreadsheet results must be attached to the WET report submission to DEP.

DATA SHEET

The purpose of the Data Sheet is for laboratories accredited by DEP to conduct WET testing to provide DEP with a standardized form to report results for test replicates. If a printout of DEP's WET Analysis Spreadsheet is attached to the report, submission of the Data Sheet is optional. For each species and endpoint, six conditions (columns) are available to enter replicate data. One column should record replicate data for the control condition, and the other five columns should record replicate data for each dilution used in the test.

The tables provide up to 15 replicates per species ("Rep. No."). If the Data Sheet is completed, enter the NPDES permit number and name of the facility and complete the remainder of the form as follows:

1. Check the box for the appropriate species tested; if a species other than Ceriodaphnia/Pimephales was tested, indicate the species name.
2. List the number of organisms in each replicate at the start of the test.
3. Indicate the method by which the pass/failure determination was made for the test by checking the box for TST (Test for Significant Toxicity), Other Hypothesis Testing (e.g., NOEC, LC50, etc.) or Other (specify the method if Other).
4. In each table header, record the value of the dilution series used.
5. In the survival columns of each table, list the number of organisms **still alive** in each replicate at the termination of the test.
6. In the reproduction columns, list the number of young in each replicate at the termination of the test.
7. In the growth columns, list the mean weight per original organism in each replicate at the termination of the test.